ABSTRACT OF DISCLOSURE

Disclosed is a brightness control apparatus and method capable of adaptively compensating brightness values based on an average brightness of an image signal. The adaptive brightness control apparatus comprises a probability density function (PDF) calculation unit calculating a PDF based on a distribution of pixel values of pixels of an input image signal, a compensation value calculation unit for calculating an average value of the pixel values of the respective pixels, and calculating a function having a predetermined slope according to a range of the average brightness value, and a pixel value compensation unit for re-establishing the distribution of the pixel values based on the calculated function. The brightness control apparatus adaptively corresponds to the brightness of an input image signal preventing flickering, and does not require an additional hardware structure, when additionally requiring a function for compensating brightness values, by implementing the required function through conversion of embedded function values.